10/815,828

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PATENT SPECIFICATION

Application Date: June 9, 1942. No. 7846/42. **555,026**

Complete Specification Left: June 9, 1943.

Complete Specification Accepted: July 29, 1943.

PROVISIONAL SPECIFICATION

Improvements in or relating to Goods Transport Vehicles

NOTICE OF AMENDMENT

SPECIFICATION NO. 555,026

The Decision of the Assistant Comptroller, acting for the Comptroller-General, dated the eighth day of September, 1943, allowed the Application to be amended so as to include Co-operative Wholesale Society Limited, a British Society registered under the Industrial and Provident Societies Acts, 1893 to 1928, of 1, Balloon Street, Manchester, 4, as co-Applicants for Letters Patent.

The preamble to the Provisional and Complete Specifications will therefore read in accordance with this amendment; and, in addition, the words "I" and "my" throughout the text will read "we" and "our" respectively.

THE PATENT OFFICE,

29th November, 1943

Application No. 1880/42 (Serial No. 554,517).

According to the invention a goods transport vehicle comprises a chassis, a covered body mounted on the chassis, a plurality of storage units arranged in rows in the body, at least some of which units are mobile for providing access to units in the row behind, and means providing access to the storage units of the front row.

Subsidiary features of the invention comprise

(a) That the access means to the storage units of the front row comprises a gangway.

(b) That the access means to the storage units of the front row comprises movable closure panels forming part of the vehicle body structure.

(c) That a service counter is provided, the service space behind which also provides part at least of the access to the storage units of the front row.

(d) That display means are provided, the access to which is partly provided by the means giving access to the storage units of the front row.

(e) Any combination of the above features.

(f) Any particular embodiment of any of the above features as in the example or examples hereinafter described.

In one example of the invention, the goods transport vehicle comprises a light van with a coach-built body having a panel in one side, part of which is being fixed whilst those in front are in the form of mobile units, movable laterally for access to the row or rows behind. Behind the shallower show cases are shallow shelving to make up uniform depth for the length of the vehicle.

Immediately behind the counter and show cases is a gangway, which provides service access to the counter and also to the storage and display accommodation along the side of the van. Such gangway also provides access to main storage consisting of a fixed row of shelves against the other side of the van and one or more rows of mobile storage units mounted on rails in front thereof. Preferably, the fixed shelving and the mobile storage units are constructed in accordance with the invention of my pending Application for Patent No. 1880/42 (Serial No. 554,517) wherein the shelves are of different depths from back to front for economic storage of goods of a variety of sizes, with certain distribution advantages as set out in the Specification of the aforesaid pending Application.

In order to provide space for movement of the mobile storage units whilst having maximum storage capacity, movable extension track rails may be provided to enable one or some of the units to be moved temporarily beyond the normal dimensions of the van, as for example out at the rear end.

The mobile units may be guided overhead or suspended from overhead tracks

[F

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PROVISIONAL SPECIFICATION

Improvements in or relating to Goods Transport Vehicles

I, THOMAS EDWARD FOULKES, a British subject, of 35, Stanhope Gardens, Ilford, Essex, do hereby declare the nature of this invention to be as follows:—

This invention relates to goods transport vehicles, including especially such as are adapted also for the display and/or distribution of goods by sale or otherwise, as for example vehicles which are in effect mobile shops embodying their own sales counter as well as storage and display facilities.

The present invention constitutes an embodiment or new application of the invention forming the subject of my earlier Patent No. 470,516 and pending Patent Application No. 1880/42 (Serial No. 554,517).

According to the invention a goods transport vehicle comprises a chassis, a covered body mounted on the chassis, a plurality of storage units arranged in rows in the body, at least some of which units are mobile for providing access to units in the row behind, and means providing access to the storage units of the front row.

Subsidiary features of the invention comprise

(a) That the access means to the storage units of the front row comprises a gangway.

(b) That the access means to the storage units of the front row comprises movable closure panels forming part of the vehicle body structure.

(c) That a service counter is provided, the service space behind which also provides part at least of the access to the storage units of the front row.

(d) That display means are provided, the access to which is partly provided by the means giving access to the storage units of the front row.

(e) Any combination of the above features.

(f) Any particular embodiment of any of the above features as in the example or examples hereinafter described.

In one example of the invention, the goods transport vehicle comprises a light van with a coach-built body having a panel in one side, part of which is adapted to be raised to form a roof and part lowered to form a counter extension.

Within the van is a fixed counter of about one third of the length of the van. At each side of the counter are fixed showcases for display of goods, those showcases nearest the counter being deeper, from back to front, than those further away, thus providing economic display accommodation for a range of goods of different sizes. The showcases have glass fronts forming part of the side wall of the vehicle, for which suitable protective shutters may be provided. Below the showcases which extend upwards from the height of the counter, and below the counter, are shelves, those at the back being fixed whilst those in front are in the form of mobile units, movable laterally for access to the row or rows behind. Behind the shallower show cases are shallow shelving to make up uniform depth for the length of the vehicle.

Immediately behind the counter and show cases is a gangway, which provides service access to the counter and also to the storage and display accommodation along the side of the van. Such gangway also provides access to main storage consisting of a fixed row of shelves against the other side of the van and one or more rows of mobile storage units mounted on rails in front thereof. Preferably, the fixed shelving and the mobile storage units are constructed in accordance with the invention of my pending Application for Patent No. 1880/42 (Serial No. 554,517) wherein the shelves are of different depths from back to front for economic storage of goods of a variety of sizes, with certain distribution advantages as set out in the Specification of the aforesaid pending Application.

In order to provide space for movement of the mobile storage units whilst having maximum storage capacity, movable extension track rails may be provided to enable one or some of the units to be moved temporarily beyond the normal dimensions of the van, as for example out at the rear end.

The mobile units may be guided overhead or suspended from overhead tracks

[illegible]

and for co-operation with warehouse accommodation, the mobile units may be arranged to be run onto rails or overhead tracks in the warehouse direct from the vehicle, or to be loaded onto the vehicle in such manner. In some cases the entire internal capacity of the vehicle body may be adapted to hold mobile units without any provision for display or sale.

For automatic sorting of the units when delivered from the vehicle, the supporting means, such as the ground rails or overhead tracks, may be constructed to co-operate selectively with the mobile units so that such units are caused automatically to follow different selected tracks to their respective destination.

Means will, of course, be provided to secure the mobile units against undesired movement during movement of the vehicle and means may also be provided to retain goods in their selected shelves or compartments against displacement by the movement of the vehicle.

Access to the gangway of the combined display, sales and storage vehicle first described may be provided from the drivers cabin, or through the rear of the body or through the side of the vehicle, or any of these ways.

By adopting an internal construction of shelving according to my earlier invention in which compartments are of a variety of sizes and by making such compartments or some of them of sizes which will be filled by standard quantities of regular lines of goods such as are usually crated or parcelled together in bulk quantities, such crating or parcelling is rendered unnecessary. Also, the grading of the compartment sizes enables a variety of goods selected by a customer to be grouped together without requiring any crating or parcelling. For ultimate delivery, the goods may be quickly transferred from their compartment to any suitable portable container.

By suitable design, an additional storage unit or units may be provided which is or are hinged or otherwise mounted so as to be movable into and out of the normal gangway, or temporarily out of the normal bounds of the vehicle; or into or out of the space required for allowing movement of the mobile units.

In another example of the invention, the vehicle may be constructed with a collapsible gangway at one or both sides so that covered or uncovered access may be had to the goods, and so that thereby maximum use may be made of the normal internal volume of the vehicle, little or none of such volume being required for gangway or access space.

Dated this 13th day of April, 1942.
For the Applicant,
WILSON, GUNN & ELLIS,
Chartered Patent Agents,
54/56, Market St., Manchester, 1.

COMPLETE SPECIFICATION

Improvements in or relating to Goods Transport Vehicles

I, THOMAS EDWARD FOULKES, a British subject, of 35, Stanhope Gardens, Ilford, Essex, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to goods transport vehicles, including especially, but not exclusively, such as are adapted also for the display and/or distribution of goods by sale or otherwise as for example vehicles which are in effect mobile shops embodying their own sales counter as well as storage and display facilities.

The present invention constitutes an embodiment or new application of the invention forming the subject of my earlier Patent No. 470,516, and pending Patent Application No. 1880/42 (Serial No. 554,517).

According to the invention a goods transport vehicle comprises a chassis, a covered body mounted on the chassis, a plurality of storage units arranged in parallel rows in the body, at least some of which units are mobile laterally relative to their access faces for providing access to units in a row behind, and means providing access to the storage units of the front row.

Subsidiary features of the invention comprise

(a) That the access means to the storage units of the front row comprises a gangway, which may be part of the vehicle.

(b) That the access means to the storage units of the front row comprises movable closure panels forming part of the vehicle body structure.

(c) That a service counter is provided, the service space behind which also provides part at least of the access to the storage units of the front row.

(d) That display means are provided, the access to which is partly provided by the means giving access to the storage units of the front row.

(e) Any combination of the above features.

(f) Any particular embodiment of any of the above features as in the example or examples hereinafter described.

In the accompanying drawings,

Fig. 1 is a perspective of one example of a goods transport vehicle made in accordance with the invention.

Fig. 2 is a diagrammatic sectional plan showing the internal arrangement of storage and display elements illustrated in Fig. 1, the section being taken above the level of the service counter.

Fig. 3 is a diagrammatic sectional plan taken below the level of the service counter.

Fig. 4 shows an arrangement for extending the rails for the mobile units.

Fig. 5 shows a further modification.

Fig. 6 shows a further modification.

In the example of the invention, shown in Figs. 1 and 2 of the drawings, the goods transport vehicle comprises a light van with a coach-built body 10 having a panel in one side, part 11 of which is adapted to be raised to form a roof or awning and part 12 of which may be lowered to form a counter extension. Within the van is a fixed service counter 13 of about one third of the length of the van. At each side of the counter are fixed showcases for display of goods, those showcases 14 nearest the counter being deeper, from back to front, than those 15 further away, thus providing economic display accommodation for a range of goods of different sizes. The showcases have glass fronts forming part of the side wall of the vehicle, for which the parts of the panel as above described will form protection or other suitable protective shutters may be provided. Below the showcases (see Fig. 3) which extend upwards from the height of the counter, and below the counter, are shelves, those 16 at the back viewed from inside the vehicle, being fixed whilst those in front are in the form of mobile units 17, movable laterally for access to the row or rows behind. In front of the shallower show cases 15, when viewed from inside, is shallow fixed shelving 18 to make up uniform depth for the length of the vehicle, and occupying the space between the said show cases 15 and the mobile units 17 when positioned in front of them as shown.

Immediately behind the counter and show cases is a gangway 19 which provides service access to the service counter 13 and also to the storage and display accommodation along the same side of the van. Such gangway also provides access to main storage consisting of a fixed row of shelves 20 against the other side of the van and one or more rows of mobile storage units 21 mounted on rails in front thereof. Preferably, as shown, the fixed shelving and the mobile storage units are constructed in accordance with the invention of my pending Application for Patent No. 1880/42, wherein the fixed shelves 20*a*, 20*b*, 20*c*, 20*d*, and 20*e*, are of progressively different depths from back to front for economic storage of goods of a variety of sizes, with certain distribution advantages as set out in the Specification of the aforesaid pending Application. The complementary shelves 21*a*, 21*b*, 21*c*, 21*d* and 21*e* of the mobile units 21 are similarly of different depth but in opposite and complementary progression.

In order to provide space for movement of the mobile storage units whilst having maximum storage capacity, movable extension track rails may be provided to enable one or some of the units to be moved temporarily beyond the normal dimensions of the van, as for example out at the rear end.

As shown in Fig. 4 the van is provided with a tailboard 22 hinged at 23 to the floor of the van and carrying extension rails 24. The tail board is supported by a folding stay 25. Alternative or additional support for the tail board may be provided. The tail board is of sufficient length to enable the mobile units to move a unit's length and uncover a complete fixed unit. Thus, instead of four mobile units as shown in Fig. 2 there may be five, in fact a full row. Instead of part of the upper half 26 of the back of the vehicle hinging outwardly it could hinge upwardly as shown at 27 to form a roof extension which would be an advantage in inclement weather as the end unit (not shown) would then be substantially protected whilst displaced for obtaining access to the fixed units. As can be seen in this figure also, the mobile units 28 and fixed units 29 are of uniform (i.e. not progressive) depth, as compared with those on the other side of the van.

The mobile units may be guided overhead or/and suspended from overhead tracks of any known construction as an alternative to the floor rails herein described, and where applicable the expression "rails" shall be taken to include such alternative. For co-operation with warehouse accommodation, the mobile units may be arranged to be run onto rails, or overhead tracks in the warehouse direct from the vehicle, or to be loaded onto the vehicle in such manner. As shown also in Fig. 4, the vehicle may be backed to line up with rails 30 on a loading or unloading jetty 31. Any stop, such as 32, would be arranged for quick

release to enable the units to pass. In some cases the entire internal capacity of the vehicle body may be adapted to hold mobile units without any provision for display or sale, in which case all units may be mobile.

For automatic sorting of the units when delivered from the vehicle, the supporting means, such as the ground rails or overhead tracks, may be constructed to co-operate selectively with the mobile units so that such units are caused automatically to follow different selected tracks to their respective destination. Any suitable known track selector construction may be employed.

Means will, of course, be provided to secure the mobile units against undesired movement during movement of the vehicle and means may also be provided to retain goods in their selected shelves or compartments against displacement by the movement of the vehicle.

Access to the gangway of the combined display, sales and storage vehicle first described may be provided from the driver's cabin, or through the rear of the body or through the side of the vehicle, or any of these ways.

By adopting an internal construction of shelving according to my earlier invention in which compartments are of a variety of sizes and by making such compartments or some of them of sizes which will be filled by standard quantities of regular lines of goods such as are usually crated or parcelled together in bulk quantities, such crating or parcelling is rendered unnecessary. Also, the grading of the compartment sizes enables a variety of goods selected by a customer to be grouped together without requiring any crating or parcelling. For ultimate delivery, the goods may be quickly transferred from their compartment to any suitable portable container.

By suitable design, an additional storage unit or units may be provided which is or are hinged or otherwise mounted so as to be movable into and out of the normal gangway, or temporarily out of the normal bounds of the vehicle; or into or out of the space required for allowing movement of the mobile units. This hinged unit can fill the space required for movement of the mobile units or be moved to create such space. As shown diagrammatically in Fig. 5 the units 33 are fixed whilst the units 34 are mobile on rails. The unit 35 and 36 at opposite sides are hinged for movement out of line of the units 34 and into the positions shown dotted thus leaving units of space at the ends of the rails permitting the mobile units 34 to be moved laterally in their line for access to the fixed units 33 behind them.

In another example of the invention, the vehicle as shown in Fig. 6 may be constructed with a collapsible gangway 37 at one or both sides folding down from the side of the vehicle, so that access may be had to the goods from outside, and so that thereby maximum use may be made of the normal internal volume of the vehicle, little or none of such volume being required for gangway or access space. Part of the side may fold up as shown at 38 to provide a roof or cover. In this figure there is shown one fixed central rack 39 and two rows 40 of mobile units at each side. The parts 37 and 38 thus constitute movable closure panels forming part of the vehicle body structure and giving access to the storage units.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A goods transport vehicle comprising a chassis, a covered body mounted on the chassis, a plurality of storage units arranged in parallel rows in the body some at least of which units are mobile laterally relative to their access faces for providing access to units in a row behind and means providing access to the storage units of the front row.

2. A goods transport vehicle according to Claim 1 characterised in that the access means to the storage units of the front row comprises a gangway.

3. A goods transport vehicle according to Claim 2 characterised in that the gangway is internal.

4. A goods transport vehicle according to Claim 2 characterised in that the gangway is external and collapsible.

5. A goods transport vehicle according to Claim 1 or 4 characterised in that the access means to the storage units of the front row comprises movable closure panels forming part of the vehicle body structure.

6. A goods transport vehicle according to any of the preceding Claims 1, 2 or 3, characterised in that a service counter is provided, the service space behind which also provides part at least of the access gangway to the storage units of the front row.

7. A goods transport vehicle according to any of the preceding Claims 1, 2, 3, or 6, characterised in that display means are provided, the access to which is partly provided by the gangway giving access to mobile storage units of the front row.

8. A goods transport vehicle according to any of the preceding Claims charac-

terised in that one or more of the storage units is movable out of line as by pivotal movement, so as to provide the unit of space for lateral movement of mobile units in that line.

9. A goods transport vehicle according to any of the preceding Claims characterised in that rail extension units are provided at the end of the vehicle to enable a full row of mobile units to be carried.

10. A goods transport vehicle according to Claim 9 characterised in that a lower part of the end of the vehicle is constructed as a tailboard to carry the rail extensions whilst an upper part is arranged to provide cover against inclement weather.

11. A goods transport vehicle according to Claim 10 characterised in that the tailboard is adapted to register with rails of a loading platform for the purpose of loading and unloading the mobile units.

12. A goods transport vehicle according to Claim 1 characterised in that it is adapted to hold a full complement of mobile units for transportation purposes.

13. A goods transport vehicle according to any of the preceding Claims characterised in that some of the units are shaped according to Patent Application No. 1880/42.

14. A goods transport vehicle constructed and arranged substantially as herein described with reference to and as illustrated in the accompanying drawings.

Dated this 1st day of June, 1943.

For the Applicant,
WILSON, GUNN & ELLIS,
54/56, Market Street, Manchester, 1.

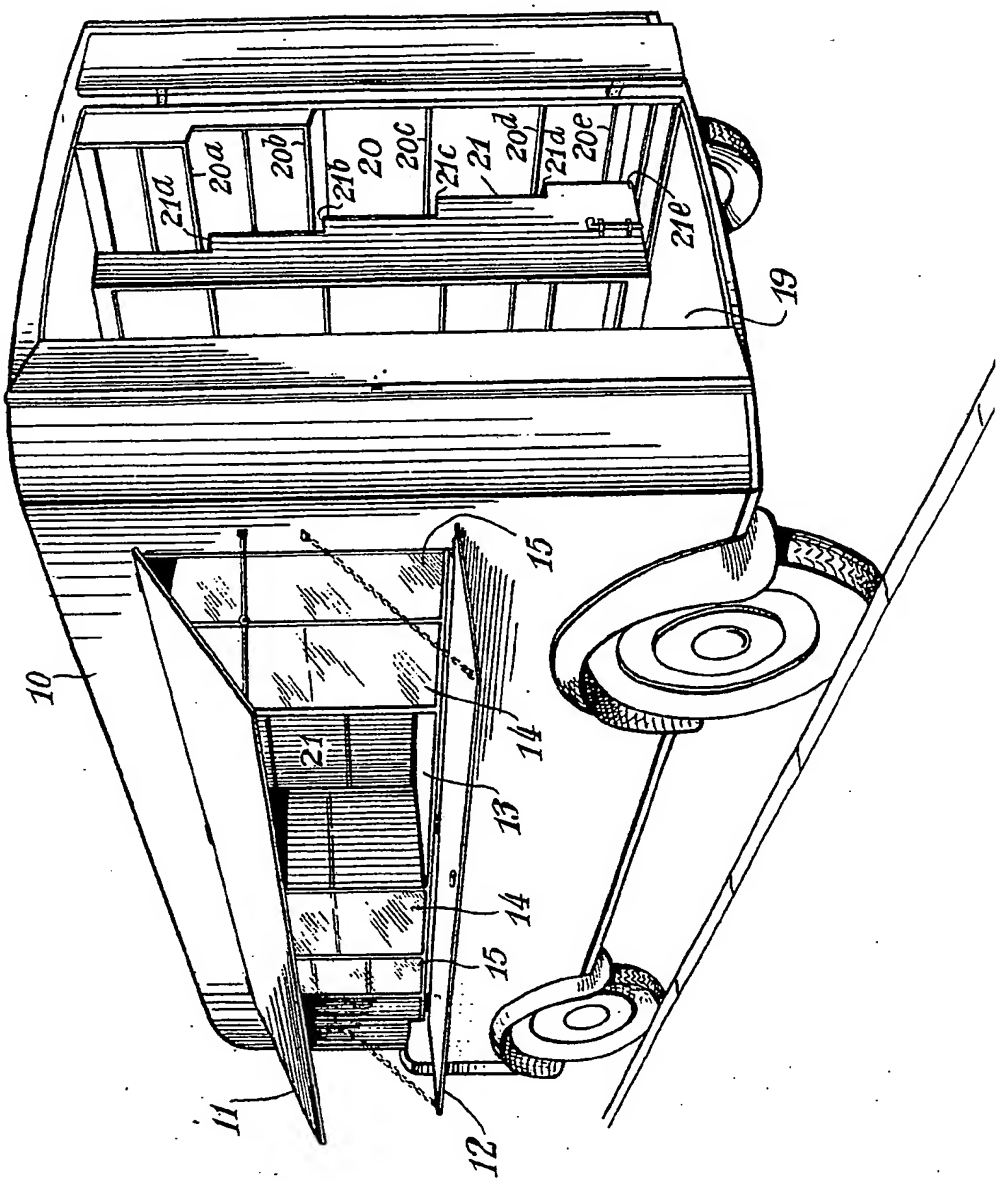
Leamington Spa: Printed for His Majesty's Stationery Office, by the Courier Press.—1943.

555,026 COMPLETE SPECIFICATION

3 SHEETS
SHEET 1

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig.1.



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[This Drawing is a reproduction of the Original, on a reduced scale.]

Fig. 2.

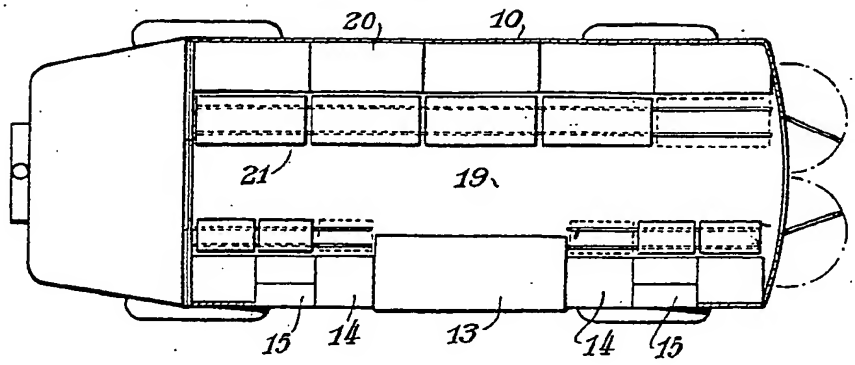


Fig. 3.

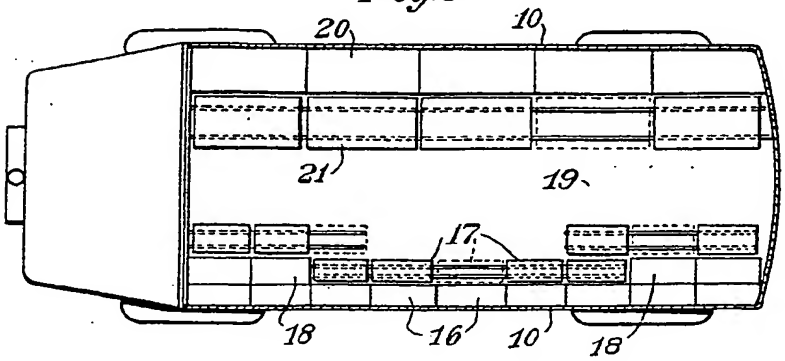
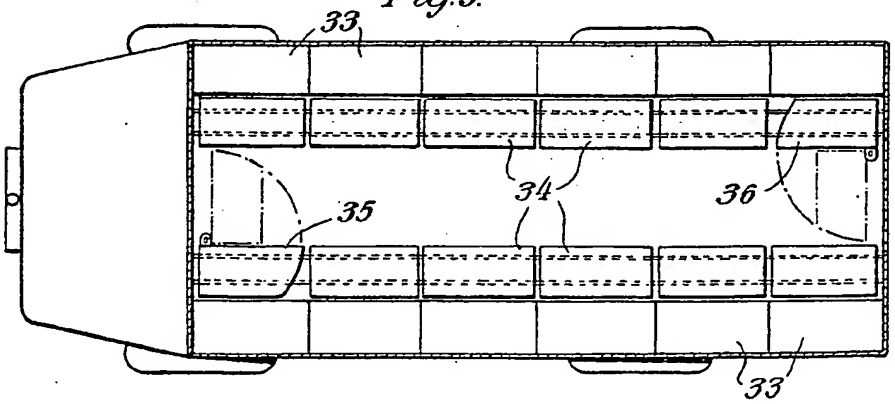


Fig. 5.



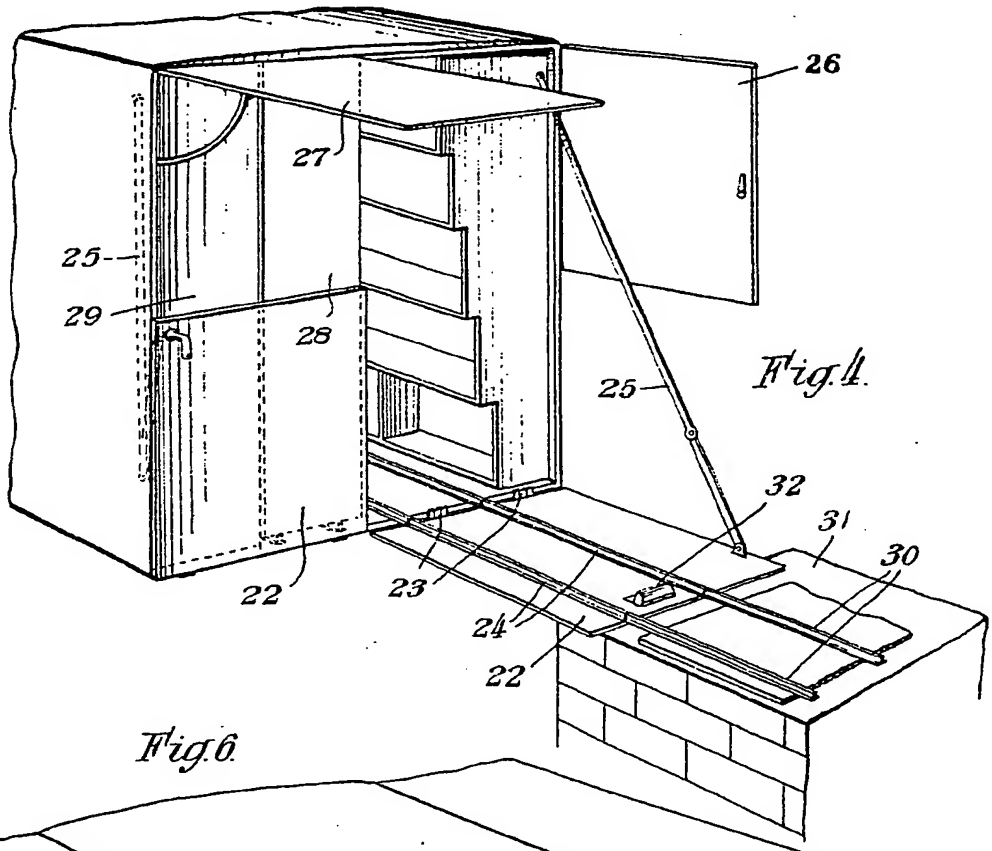
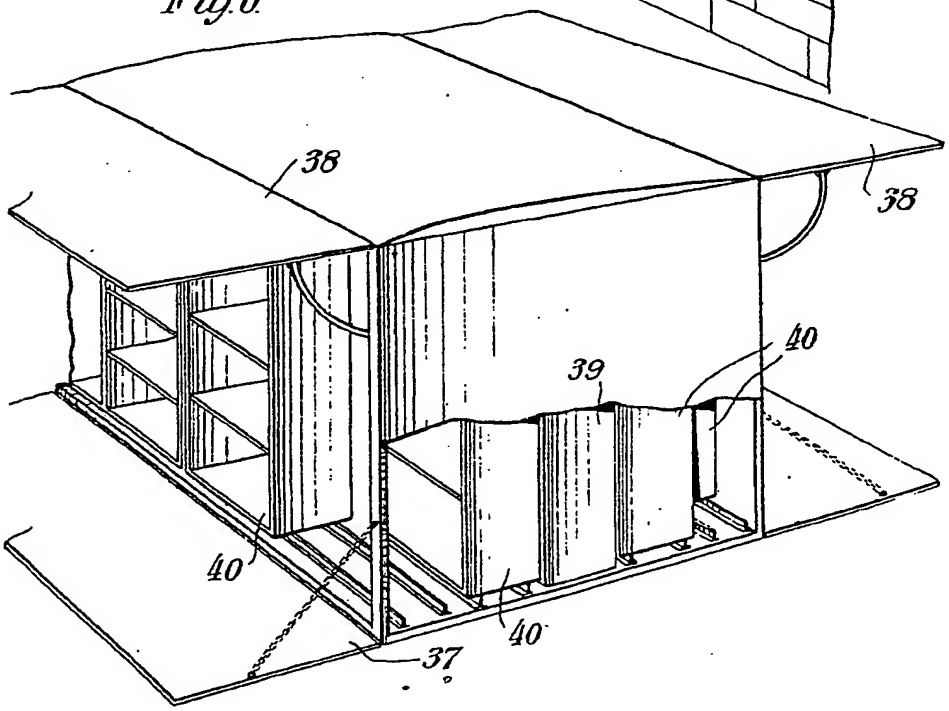


Fig. 4.

Fig. 6.



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[This Drawing is a reproduction of the Original on a reduced scale.]